MISSOURIENSIS

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ANNUAL MEETING

Minutes of the Board Meeting, June 13, 1981, Rolla, Missouri

Paul Redfearn, newly elected President of this society, called the meeting to order at 12:20 P.M. Present were the following Board members: Melvin Conrad, Richard Daley, Erna Eisendrath, Karen Haller, John Karel, Ginny Klomps, Paul Nelson, Wallace Weber and Jim Henry Wilson. Members absent: Bill Dierker, Jon Hawker, Diana James, Robert Mohlenbrock and Kenton Olson. Society members and guests present at the limited-seating luncheon meeting: Eula Conrad, John Doggett, Ruth and Leo Galloway, Becky Haefner, Albert Haller, Virginia and Ralph Lucas, John Molyneaux, Sherry Morgan, Alice A. Nightingale, Susan Russell, Mervin Wallace, and Agnes and John Wylie. Attendance for the entire program of this annual meeting numbered 67.

MINUTES. Minutes of the March 7, 1981 Board Meeting were approved as published in Missouriensis, plus corrections.

TREASURER'S REPORT. Jim Henry Wilson reported $2,887.38 on hand at present. A financial report for the year was submitted to each Board member. Within the next few weeks, all the files and finances will be turned over to Richard Daley. Thanks to Jim Henry Wilson for a job well done. It was noted that no income tax return was filed for the past year.

MEMBERSHIP. New membership lists were distributed by Jim Henry Wilson. Members are given one year of grace prior to deletion of names from the roster. During this time, they continue to receive the four issues of Missouriensis. Should this practice continue? Suggestions from the Board are to be considered by the Membership Committee which now includes Jean Webdell and Wanda Oskins. Further interest in membership on the committee is welcomed.

OLD BUSINESS. Serious discussion regarding the importance of regional representation, regular attendance at meetings, and balance of professional and amateur botanists on the Board preceded the vote by the Board to settle the tie vote between Diana James and Otto Ohmart for a three year term on the Board. Diana James has gained the seat. Congratulations.

Logo. On ream (500 sheets) of cream-colored stationary sporting a green logo has been printed and is to be distributed by the secretary to officers and Board members as needed. Information on the logo and related items has been turned over to Paul Redfearn by John Karel. President Redfearn will appoint someone to check on the cost of T-shirts, window stickers and postcards bearing the new logo.

Organization of Regional or District Societies of MoNPS. Jim Henry Wilson circulated copies of Article VIII-Chapter Organization for consideration as an amendment to the By-Laws. Discussion resulted in an approval vote, minus Section 5. (Copies of the amendment can be obtained from Wilson.)

Post Office Permit for Bulk Mailing Privileges. In order for the society to have bulk mailing privileges, an exemption will have to be obtained from the Internal Revenue Service. Erna Eisendrath has contacted Peter Ruger, General Counsel of Washington University, who advised that he will apply for the exemption and that his services will be free.

NEW BUSINESS

Board Meetings for the Year. Generally, the first Saturday of each calendar quarter is recognized as the Board meeting date. However, exceptions are made, as is the case for September, 1981, due to Labor Day weekend. So, Saturday, September 12 has been selected, in Joplin, where the meeting will be held in connection with the Missouri Department of Conservation Prairie Day at Diamond Prairie (See pg.19). December 5, March 6 and June 5 (annual meeting) fill out the year; Melvin Conrad was given responsibility for selecting locations for the later meetings.

Operation Wild Flowers. Ginny Klomps suggested a resolution by our organization giving support to the Missouri Federation of Garden Clubs in their quest to beautify the highways by non-mowing and selective planting of flowers. This is in conjunction with the National Highway Transportation Commission. Discussion stressing the importance of native plants followed. It was decided to consider this project at the next Board meeting when Ginny will submit a more detailed program, after meeting with Dorothy Seibert, Missouri State Chairman.

Tenure for Editor. Erna Eisendrath suggested a change in the By-Laws to require a vote of confidence for the Editor with each change of officers. Paul Redfearn suggested tenured time with the possibility of continuance with the blessing of the new Board. Final recommendations will come from a committee (to be appointed by Paul Redfearn) at the September meeting.

Financial Management. Discussion regarding possible printing and mailing cost for future issues of Missouriensis brought forth an estimate of $205.00 for 500 issues, plus $62.00 for folding and stapling. (Susan Russell had consulted one photo-copy

company but other estimates will be sought.) In the meantime, the Editor has the approval of the Board to have the next issue commercially printed, if necessary. Becky Haefner volunteered to work with Erna Eisendrath on format. Melvin Conrad suggested a personal vote of confidence for Erna Eisendrath as our past and future Editor. All agreed.

Environmental Action Committee. Bill Dierker has requested help in formulating the objectives of this committee.

Thanks. Many thanks to Ginny Klomps and Nord Gale for the excellent planning and hosting of this meeting. And thanks also to Greg Hoss, Steve Timme, Leo Galloway, and Art Suchland for their educational and entertaining regional programs on the flora of Missouri.

Adjournment and Field Trips. Business drew to a close in time for the scheduled 2:00 P.M. field trips to Slaughter Sink and Vichy Glade.

Respectfully submitted: Karen S. Haller,
Secretary

WHAT ELSE YOU MISSED

Becky Haefner and Ginny Klomps
Missouri Department of Conservation
P.O. Box 180, Jefferson City, MO 65102

The annual meeting was held in the Civil Engineering Auditorium at the University of Missouri, Rolla campus.

The program was "Missouri's Flora -- a Regional Introduction", and the audience enjoyed slides of plants from the four corners of the state presented by the people who live in those areas.

Greg Hoss, a Resource Forester for the Missouri Department of Conservation at Poplar Bluff, discussed the Southeastern flora. Greg graduated from the UMC School of Forestry and worked a while in Wyoming. His avid interest in wild flowers was evidenced by his slides of some of the most beautiful southeastern plants: Copper Iris, Spider Lily, Southern Blue Flag, and the Purple Fringeless Orchid.

The Southwestern flora was presented in slides by Steve Timme of Springfield. Steve is studying the native prairie mosses for an MS from Southwest Missouri State University. Along with several species of mosses, he showed slides of the notable rarer species of that region: Geocarpon minimum, Mead's Milkweed, Ozark Chinquapin, and Yellow Wood.

With an emphasis on ecological observations, Dr. Leo Galloway presented a slide talk on plants of Northwestern Missouri. Dr. Galloway is professor emeritus and curator of the herbarium at Missouri Western College in St. Joseph. Prairies and loess mounds are distinctive natural features of that region. Included among his slides was a picture taken in 1976, of the rare Prairie White Fringed Orchid. The population has not been seen since that time.

And finally, Art Suchland, also a Resource Forester for the Missouri Department of Conservation, at Hannibal, discussed the flora of the Northeast Region of the State. In Hannibal, Art is also president of the Natural History Club. His slides and narration included many of the characteristic plants of the region as well as the more rare species such as Red-berried Elder.

Adjacent to the area in which coffee and doughnuts were available to grateful members of MoNPS were lists of publisations of the MDC; the 1981 Natural Area Directory; and the following publications of the DNR: Missouri State Parks, Missouri Natural Area System and brochures about several of the individual parks. Exhibited were the following books: Denison's Wildflowers of Missouri; Eisendrath's Missouri Wildflowers of the St.Louis area; Korling's Prairie and Swale; Peterson's Field Guide to the Wildflowers of Northeastern and North-central North America; Phillips' Wild Edibles of Missouri; Robertson's Observing, Photographing and Collecting Plants; Steyermark's Flora of Missouri; Voight and Molhlenbrock's Prairie Plants of Illinois.

Immediately following the program, election results were announced and the meeting adjourned for lunch and an afternoon of field trips to Slaughter Sink and Vichy glades.

Slaughter Sink lies west of Rolla. This karst feature and the adjacent Conical Sink, were formed by solution of Gasconade dolomite rock which underlies surface sandstones of the Roubidoux formation. Slaughter Sink is $\frac{1}{4}$ mile long in maximum dimension and 175 feet deep, enclosed in many sections by vertical walls of dolomite. Steep and rather treacherous paths led to impressive promontories overlooking the sink. Plant communities of moist sandstone and dolomite bluffs were viewed along the way including dense colonies of Lady's Fern (a county record). The floor of Slaughter is essentially flat and is inundated during spring rains. Sycamore, Silver Maple, vines and mosquitoes dominate the wet sink basin. Crumbled rock talus forms the sink walls in places. Atop the southern edge of the sink were xeric to dry sand forest communities dominated by Post- and Blackjack Oak, and Lowbush Blueberry. By and large, it was agreed that the Sink is primarily a significant geological feature which supports several types of common plant communities.

Twenty-seven people attended the afternoon field trip to Vichy glades, including one under two years old. The glades are located on Spring Creek Gap State Forest near the Vichy Tower site. There are numerous glades on the area, of which we visited one. Area manager Helene Miller joined us and talked a little bit about past history of the area. Seen were a variety of plants in flower including Yellow Coneflower (county record), Purple Prairie Clover, Scurf Pea, Butterfly Weed, Coreopsis, Pale Purple Coneflower, Leadplant, and Sensitive Brier. Missouri Primrose and Blue Wild Indigo were in fruit.

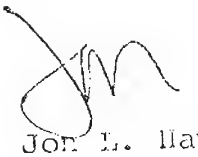
In addition to the plant life, glade animals were in evidence: a scorpion, several lizards, a copperhead (from a safe distance), and a rough green snake. A little rain didn't appear to dampen the spirits of those involved, and a good time was had by all.

MESSAGE FROM HAWKER

I would like to take this opportunity to thank all members of the society for their help during our formative years. I recognize that we are not satisfied as yet with the operation of the organization, but neither should we ever be, I would hope. We have made good progress, I believe, having started from scratch such a short time ago. My only regret is that I have been unable to contribute more during this last year of my tenure as president.

I wish the new officers and board the greatest possible success and hope to see the society grow and prosper. I know that the outgoing officers and board members will continue to offer their services whenever possible.

Good luck to all in the next years!



Jon L. Hawker

REDFEARN'S REPLY TO WYLIE AND THE "DUDE"

To the editor:

The following is my brief reply to the letters you received.

That my thoughts on herbaria and collecting stimulated responses is not surprising. I intended that it should and I certainly have no quarrel with the points made by Dr. Wylie or "The Dude." I share their concerns about the inflated value that is given to species that become recognized as rare and I certainly deplore the fact that the demise of some species may have been caused or hastened by biologist-collectors. I hope that responsible sampling will always be a part of the ethics of collecting by everyone, but I also hope that in addressing this legitimate concern we do not ignore the necessity and importance of herbarium and museum collections in supporting research on the taxonomy, evolution, geography, and ecology of species. The main thrust of my comments was that collections are necessary to document and advance scientific studies and yes, even to provide the foundation to support conservation programs and the protection of endangered species, and that such collections should be placed in a herbarium where they may be subsequently studied.

I have been collecting plants for over 30 years and I've seen many species that are rare in one habitat or another. I have seen plants, often in rather large populations, eliminated from an area not by collecting but by elimination or alteration of their habitat. The invasion of an area by plants, as pointed out by H. A. Gleason (1926)** many years ago, is a random event and survival depends upon many factors, both intrinsic and extrinsic. Single individuals, or small populations may not persist in an area for exactly the reason pointed out by Dr. Wylie as well as many other reasons. On the other hand, if a large population is required for survival and insufficient individuals fail to arrive in the same time frame, then it really makes little difference if a careful sample is taken from a small population.

Sincerely,

Paul L. Redfearn, Jr.
Professor of Life Sciences, Southwest Missouri State University

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* Editor's apology: Dr. Redfearn's letter was apparently lost in the mail, and so not received in time to appear with the comments by Dr. Wylie and "The Dude"

** Gleason, H. A. 1926. "The Individualistic Concept of the Plant Association." Bull. Torrey Bot. Club 53(1): 7-26.

MISSOURI'S STATE PARKS

A NATURAL TREASURE HOUSE - PART I

by John Karel - Department of Natural Resources*
P.O. Box 176, Jefferson City, MO 65102

Missouri's state park system has three principal missions: outdoor recreation, cultural preservation and interpretation, and natural preservation and interpretation. This article will address the natural preservation mission. Missouri Native Plant Society members may enjoy knowing more about the natural values that are contained in the nearly 100,000 acres of their state parks. The greatest danger in conservation is to take important resources for granted and thereby fail to adequately defend them.

We can begin by briefly reviewing the very idea of parks. The concept of preserving land for conservation purposes goes back in North America at least as far as the mid-19th century when George Catlin proposed the establishment of a major preserve of landscape, wildlife, and native cultures on the great northern plains. Catlin specifically used the word "park" to describe his proposed reserve.

In 1872, the first official National Park, Yellowstone, was carved out of the public domain. From the beginning, it was recognized that a park was something special, and not to be confused with other tracts of public lands. Parks were specially chosen for truly outstanding natural qualities.

After 1872, as we all know, the park idea spread and a great system of National Parks gradually grew up. From the beginning, conservationists such as John Muir took a priority interest in the emerging system. Conservation organizations helped to insure the establishment of most of the great parks such as Yosemite, Glacier, Sequoia, and Great Smoky Mountains. Conservationists also helped to push for the law in 1915 establishing the National Park Service, in whose stewardship those national resources were entrusted.

The first director of the National Park Service was Stephen Mather and he had a very clear concept of the dual mission of the National Parks to both preserve the outstanding landscapes of the nation and to provide for their public enjoyment and recreation. Both missions are fundamental to the park idea and Mather understood that neither could be accomplished without the other.

Mather knew that if the National Parks were to function effectively, they must be part of a nationwide system of parks preserves administered by various levels of government.

In particular, he and others in the National Park Service saw a critical role for the states in rounding out the system of public park lands. Just as the National Parks preserve the finest jewels of the North American landscape, so also the state parks should preserve the finest scenery of each state.

Accordingly, in 1921, the National Park Service called together state officials to explore this concept. This conference, held in Iowa, was very fruitful, providing the main initial thrust for what became a nationwide state park movement. Some of the states that attended the conference, including Missouri, had already explored and taken some action on this idea. In 1917 the Missouri General Assembly had passed

a law earmarking 5% of the revenues from the sale of fish and game licenses for the purpose of acquiring a state park. In 1925, this percentage was increased to 25%.

It was not until 1924 that the first parks were acquired. Among these earliest parks were Big Spring, Round Spring, Arrow Rock, Mark Twain, Meramec and Sam A. Baker.

From the beginning, and in harmony with the concept of parks as special places, Missouri's parks were protected as wildlife refuges, with no hunting allowed. The number of Missouri's hunters grew increasingly, and became justifiably frustrated with the use of their license money for park purposes.

At any rate, this frustration, along with the more comprehensive objective of freeing fish and game management from legislative politics was one of the motivations for the 1936 campaign for the constitutional amendment setting up an independent bipartisan Conservation Commission. Members of the Commission are appointed by the incumbent governor, for staggered periods of tenure. Their salaries and other expenses of the Commission were originally financed entirely by revenue derived from fishing and hunting licenses, but, since voter approval in 1976, additional funds have come from 1/8 of 1% of the state sales tax.

This Commission hires and pays the members of the Missouri Department of Conservation, who actually work for the Commission and, as the constitutional amendment setting up the latter explicitly states, are authorized to administer only fish, game and forestry programs....not parks.

Passage of the amendment was of course a great victory for conservationists, but it left the existing state parks without any administration. Recognizing the emergency, the Missouri General Assembly in 1937 passed a law establishing a State Park Board to administer the state parks. From that moment, and to this day, the state parks are dependent for their operations upon annual appropriations of the state legislature.

In 1954, the Board was expanded from 3 members to 6, and in 1974 under general state reorganization all responsibilities of the Board were transferred by constitutional amendment to the Department of Natural Resources. Thus, the state parks are today administered by DNR through the Division of Parks and Historic Preservation.

Why should conservationists be concerned about this history or interested in the administration of state parks? The reason is simple....conservationists are interested in land, and the state parks incorporate lands that have remarkable characteristics. These remarkable natural qualities will be explored in Part II of this article.**

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*Much of this material appeared in Missouri Wildlife, February, 1981, and is reprinted with permission.

**Editors note: to appear in our fall issue.

GUIDE TO MISSOURI'S HERBARIA *

This guide lists most of the public herbaria in Missouri and includes information on the number of specimens, and name, address, and telephone number of the curator. This data was collected by mailing a survey to 58 colleges and universities in the state during January and February of 1980. The information presented is drawn directly from forms that were returned. Small collections of less than 50 specimens were not recorded, nor does this survey include private collections. The 27 herbaria surveyed are listed and numbered according to the size of their collections.

*This valuable Guide was completed by Sharon Morgan, of the Missouri Conservation Department, in 1980, but was not printed in earlier issues of Missouriensis because of lack of space.

	INSTITUTION	COLLECTION SIZE	CURATOR	TELEPHONE	COMMENTS
1.	Missouri Botanical Garden (MO)	3,000,000	Dr. Muriel Poston Missouri Botanical Garden Box 299 St. Louis, MO 63166	314/577-5180	
2.	University of Missouri-Columbia (UMO)	250,000	Dr. David Dunn 201 Tucker Hall University of Missouri-Columbia Columbia, MO 65201	314/882-6519	Includes paleobotanical and mycological collections. Also includes 14,000 Steyermark collections and 30,000 E.J. Palmer collections.
3.	Southwest Missouri State University (SMS)	82,000	Dr. Paul Redfearn, Jr. Life Sciences Dept. Southwest MO State University Springfield, MO 65802	417/836-5882	Includes 37,000 bryophyte collections. Also includes duplicates of Steyermark's collections at UM-Columbia.
4.	University of Missouri-Kansas City	32,000	Dr. Norlan C. Henderson Dept. of Biology University of Missouri-Kansas City Kansas City, MO 64110	816/276-1385	Includes voucher specimens for 1754 new county records.
5.	Central Missouri State University (WARM)	12,520	Dr. David Castaner Biology Department Central MO State Univ. Warrensburg, MO 64093	861/429-4933	Includes approximately 3000 Carex; Knob Noster State Park flora, Taberville flora, and Schell-Osage flora.
6.	Northeast Missouri State University	12,147	Dr. Melvin L. Conrad Science Division Northeast Missouri State University Kirksville, MO 63501	816/665-5121 ext. 3323	Includes bryophyte and lichen collections. Also have unaccessioned fungi collection, and collections from Central Wesleyan College (formerly in Warrenton).

	INSTITUTION	COLLECTION SIZE	CURATOR	TELEPHONE	COMMENTS
7.	Southeast Missouri State University	12,000	Otto Ohmart Dept. of Biology Southeast Missouri State University Cape Girardeau, MO 63701	314/651-2157	
8.	Missouri Southern State College (MCJ)	10,000	Dr. E. Sam Gibson Missouri Southern State College Joplin, MO 64801	417/624-8100 ext. 278	Includes L. J. Gier's bryophyte collection.
9.	William Jewell College (WJC)	10,000	Dr. Burdette L. Wagenknecht William Jewell College Liberty, MO 64068	816/781-3806 ext. 227	
10.	School of the Ozarks (SOTO)	8,500	Dr. Alice Nightingale Biology Department School of the Ozarks Point Lookout, MO 65726	417/334-6411 ext. 229	
11.	Missouri Western State College	3,600	Dr. Leo A. Galloway 25 Belgrade Road St. Joseph, MO 64505 or Dr. John Rushin Biology Department Missouri Western State College St. Joseph, MO 64507	 816/271-4552	Dr. Galloway is retired but is still the curator of the herbarium.
12.	Northwest Missouri State University (NMSU)	2,000 - 3,000	Dr. B. D. Scott Dept. of Biology Northwest Missouri State Unitersity Maryville, MO 64468	816/582-7141 ext. 1203	Includes Nodaway County flora.

	INSTITUTION	COLLECTION SIZE	CURATOR	TELEPHONE	COMMENTS
13.	Penn Valley Community College	1,500	Dr. Paul M. Thomson Dept. of Life Sciences Penn Valley Community College 3201 Southwest Traffic-way Kansas City, MO 64111	816/756-2800 ext. 243	
14.	Drury College	1,000 - 1,500	Dr. Larry Stauffer Drury College Box 19 Springfield, MO 65802	417/865-8731 ext. 237	
15.	Department of Natural Resources	1,300	Paul Nelson Dept. of Natural Resources Div. of Parks and Historic Preservation P.O. Box 176 Jefferson City, MO 65102	314/751-2479	
16.	Harris - Stowe State College	1,000	Dr. Terry F. Werner Harris - Stowe State College 3026 Laclede St. Louis, MO 63103	314/533-3366 Ext. 33	
17.	Jefferson College	900	Charles Schlanker Jefferson College Hillsboro, MO 63050	314/789-3951	
18.	Lindenwood Colleges	700 - 800	Daryl Anderson Biology Department Lindenwood Colleges St. Charles, MO 63301	314/723-7152 ext. 233	Most specimens are from out-of-state, and were collected between 1925-1935.
19.	Ava Ranger District Mark Twain National Forest	750	District Ranger Box 188 Ava, MO 65608	417/683-4428	Includes some 1936-1937 Steyermark collections.

	INSTITUTION	COLLECTION SIZE	CURATOR	TELEPHONE	COMMENTS
20.	Ozark National Scenic Riverways	720	Betty Simpson Ozark National Scenic Riverways P.O. Box 490 Van Buren, MO 63965	314/323-4236	
21.	Hannibal - LaGrange College	637	Kathy Nelson Hannibal - LaGrange College Hannibal, MO 63401	314/221-3675	
22.	Central Methodist College	500	Dan Elliott Dept. of Biology Central Methodist College Fayette, MO 65248	816/248-3391 ext. 334	
23.	Park College	328 genera	Dr. G. Dale Thomas Dept. of Biology Park College Parkville, MO 64152	816/741-2000 ext. 141	
24.	Southwest Baptist College	250	Dr. Jasper A. Clark Biology Department Southwest Baptist College Bolivar, MO 65613	417/326-5281 ext. 342	Dr. Clark is retired but still works part time at the college.
25.	Culver - Stockton College	several hundred	John Bursewicz Culver - Stockton College Canton, MO 63435	314/288-5221 ext. 40	
26.	Longview Community College	190	Jim Beisel Longview Community College 500 Longview Road Lee's Summit, MO 64063	816/763-7777	
27.	Moberly Junior College	40 - 50 families	Dr. Wilbur J. Gunier Moberly Junior College College and Rollins Moberly, MO 65270	816/263-4110	Several plants are from along the old Katy Railroad line.

GREAT III

PLANNING FOR NATURAL AREA PROTECTION IN AN UPPER MISSISSIPPI RIVER MANAGEMENT PLAN -- GREAT III

Richard B. Pershall
Missouri Department of Natural Resources, Jefferson City, MO 65102
(Reprinted from Journal of Natural Areas Association, April, 1981)

In recent years, organizations and individuals have expressed concern about the management of the Upper Mississippi River. In 1973, the State of Wisconsin initiated a lawsuit against Corps dredging practices in the St. Paul District. As a result, a committee was established by the Upper Mississippi River Basin Commission to study the dredging problem and work out a long-range management strategy for the use of the river. This committee was composed of five state and five federal agencies which finally became known as the Great River Environmental Action Team (GREAT).

Under GREAT, the river has been divided into three segments, the objective of which is to identify conflicts and inadequacies in existing Mississippi River resources management problems. Eventually, decision makers will be provided with improved management procedures, in the final plan.

GREATS I and II have virtually been completed; GREAT III, now in its fourth year, is scheduled to be completed in 1984. The area it covers extends from Saverton, MO., just south of Hannibal, to the confluence of the Mississippi with the Ohio at Cairo, Illinois.

The St. Louis District Corps of Engineers was given authority to be the lead agency responsible for coordinating eleven study elements: commercial transportation, cultural resources, dredging and dredge material uses, erosion and sediment, fish and wildlife, flood plain management, industrial and economic development, public involvement, recreation, regulating works program and water quality. Each of these study elements was assigned to a federal or state agency and associated work groups were formed.

The recreation work group was assigned to the Missouri Department of Natural Resources. A membership was formed from recreation and resource professionals and interested citizens from Missouri and Illinois. The work group began by identifying problems related to recreation along the river. The primary problem identified was that there is generally a lack of recreation opportunities in the study area. Another major problem, however, is that undisturbed areas along the river with the potential to be designated in state natural area programs have not been identified or protected.

Relative to the recreation experience, the work group decided that ecologically sensitive areas are increasingly important. In the 1981 Missouri State Comprehensive Outdoor Recreation Plan (SCORP), natural area protection ranked in the top five priorities.

GREAT II had also recognized the importance of natural area protection as part of their management plan. They recommended that the federal definition of "wilderness" was not appropriate to protect natural areas along the Upper Mississippi River. A classification/management plan was, therefore, devised which produced guidelines to be considered in development of land use programs by all ownerships.

The GREAT III recreation work group felt that a technical study was necessary to assess not only the need for developed recreation opportunities but for natural area protection. To accomplish the objective, the scope of work called for an inventory of natural areas. This will be accomplished in several phases, the first of which will be to review existing inventories which the two states, Missouri and Illinois, have completed. Additional areas will then be identified using topographic maps and existing aerial photographs to identify the best sites. Finally, the areas in question will be evaluated by ground survey. The inventory report will include locational topographic maps of the natural areas and a text describing the amount of acreage, boundaries, land condition and significant features.

As a result of similar previous work, The Missouri Department of Conservation has been contracted to perform this natural areas inventory. Along with the Department of Natural Resources, natural areas are designated and managed through the Missouri Natural Areas System.

Presently, there are 12 designated natural areas in the GREAT III study area (5 in Missouri and 7 in Illinois). These areas contain natural marshes, forested river hills and valleys, and geologic formations. An example is Vancil Hollow Natural Area which is a 300-acre part of Trail of Tears State Park in Cape Girardeau County, Missouri. It includes exceptionally rugged terrain supporting a western mesophytic forest type, including American Beech and Tulip Poplar.

The inventory will involve only limited field work on the Illinois side of the river, because Illinois has already done a statewide inventory which is considered one of the most complete in the country. Missouri, on the other hand, has mostly inventorized its public land; therefore, much map and field work may have to be done on privately owned lands along the river.

Once the inventory is completed, the results along with other GREAT III technical study elements, will be introduced into a matrix which identifies areas of conflict between intended uses. Professionals will then resolve the use conflicts which will guide future decisions for the river.

As GREAT III planners make recommendations as to how the Mississippi River and adjacent land will be used, the natural areas inventory will be a valuable tool to assure that recommendations are made to guide development away from ecologically sensitive areas. Additional uses of the inventory will include providing government agencies, both federal and state, with natural area information unique to the river for future acquisition plans.

HELP WANTED

The library of the Missouri Botanical Garden is actively collecting materials relating to wildflowers, endangered plant species, and local native floras. In particular, this collection encompasses newsletters of local, state, regional and national groups; guidebooks; pamphlets; posters; prints; cards and stationery; and other related publications. Since many of these publications have only limited distribution, assistance is sought in adding such items to the collection. Anyone having such materials, or knowing of their existence, is asked to contact Mr. James R. Reed, Missouri Botanical Garden Library, P.O. Box 299, St. Louis, MO. 63166, U.S.A.

Anyone aware of the locations of calcareous wet meadows in Iron, Madison, Reynolds, Shannon or St. Francois counties please contact:

Steve L. Orzell
2236 Willow Ridge Lane
Chesterfield, MO 63017
314/532-1889

I would greatly appreciate learning of localities accompanied, if possible with species lists. Information will be used in a comprehensive inventory jointly sponsored by Missouri Department of Natural Resources and the Missouri Department of Conservation. Material will be kept confidential if so requested.

The Wisconsin Department of Natural Resources (DNR) is seeking color slides of plant species on the Wisconsin endangered and threatened species lists. The slides will be published in the May-June 1982 DNR magazine as a special supplement featuring rare flora. If any of the members of the Missouri Native Plant Society have high quality slides of Prenanthes crepidinea or Solidago caesia, they should communicate with:

Communications Endangered Species
Department of Natural Resources
Box 7921
Madison, WI 53707

or phone: 608/266-2172 or 266-0394

HELP OFFERED

The Missouri Botanical Garden has completed its national Directory to Resources on Wildflower Propagation for the National Council of State Garden Clubs, Inc. This 331-page directory was prepared by Gene A. Sullivan, a graduate student at St. Louis University, and Richard H. Daley, Special Assistant to the Director, Missouri Botanical Garden, and lists some 2,000 native American species and the names of researchers (both lay and professional) who have investigated the growing requirements for these plants. It also lists several bibliographies on propagation techniques and a list of seed sources for native plants. The purpose of the Directory is to help the National Council of State Garden Clubs in their project "Operation Wildflower" which is promoting the use of wildflowers for roadside plantings.

While not exhaustive, this Directory is the first attempt ever made to produce a list of wildflower experts on a national scale. Moreover, its usefulness is enhanced by the fact that this list is divided among the regions set up by Harold W. Rickett in the six volumes of Wild Flowers of the United States, published by the New York Botanical Garden (McGraw-Hill, New York, 1965-73). Sullivan and Daley also follow Rickett in determining whether or not a plant is a native American wildflower.

Both common and scientific names are included throughout the Directory, and the alphabetizing is done by common name because the Directory is to be used in the promotion of wildflowers along roadsides by non-botanists.

Inquiries concerning the Directory should be referred to the National Council of State Garden Clubs, Inc., 4401 Magnolia Avenue, St. Louis, Missouri, 63110 (314-776-7574).

RECENT ACTIVITIES OF MDC AND DNR

(The following is excerpted from the April, 1981 issue of The Journal of the Natural Areas Association, and partly rewritten.)

A new natural areas brochure has been published (see below); an updated directory of all designated Missouri Natural Areas is at press; and progress is being made on the initiation of a Conservancy Heritage Program, to be housed in the Department of Natural Resources (DNR) and administered cooperatively with the Department of Conservation (MDC) through the Missouri Natural Areas Committee. Furthermore, MDC has completed a pilot project on field inventorying, modeled on work done in Illinois; this has resulted in the initiation of field inventories in eight counties of north-central Missouri, funded by LAWCON (Land and Water Conservation Fund*) and along the Mississippi River, through a grant from the Corps of Engineers (see pg.). Don Kurz, who coordinated the initial inventory, has now taken over a new position as Natural History Lands Specialist, and continuation of the inventory is now being coordinated by Jane Anderson, a recent graduate of the University of Arizona.

In recent months, six new natural areas, and an addition to an existing such area have been designated. These are:

(1) Sandy Creek Natural Tunnel and Glade in Lincoln County, a 20-acre privately owned tract which features a natural tunnel, limestone bluff, limestone glade, and a headwaters stream--registered with MDC; (2) Cupola Pond in Ripley County, a 160-acre tract with an ancient sinkhole pond ringed with tupelo gum trees and which is also a National Natural Landmark owned by the U.S.F.S.--registered with MDC; (3) Little Bean Marsh in Platte County, a 151-acre natural marsh, oxbow slough, and bottomland forest in the floodplain of the Missouri River--owned by MDC; (4) Regal Prairie in Barton County, a 240-acre portion of high quality upland prairie vegetation and wildlife on shale-derived soils and part of the state's new Prairie State Park--owned by MoDNR; (5) Red Sink in Camden County, an 8-acre sinkhole of the Ha Ha Tonka karst complex with several types of forest communities and relict ferns--owned by MoDNR; (6) Mudlick Mountain in Wayne County, a 1370-acre tract featuring a portion of an Ozark dome in the St. Francois Mountains with dry and dry-mesic igneous forests, moist igneous cliff, and gravel wash communities--owned by MoDNR. In addition, a 115-acre tract was added to Barn Hollow Natural Area, now a jointly owned Natural Area featuring a steepwalled hollow with dolomite cliffs and ledges and an Ozark headwaters stream--owned by MDC and NPS (Ozark National Scenic Riverways.)

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* Also referred to as LWCF. This is administered in Missouri by the Department of Natural Resources. The law creating the Fund went into effect on January 1, 1965, and is to continue until 1989. The Fund provides an annual apportionment of monies to each state to be utilized as reimbursable grants for outdoor recreation projects. In addition, financial assistance is furnished to certain federal agencies to purchase important recreation lands.

However, as this goes to press, the state's share of LAWCON money is in jeopardy. As part of the FY82 budget under the Reagan administration, the House Subcommittee on Interior Appropriations has recommended zero appropriations for state grants. (If approved, all LAWCON monies will be channeled into federal agencies.)

FLORA: ROARING RIVER STATE PARK

Kathy Hornberger, graduate of Southwest Missouri State University recently completed her thesis entitled The Vascular Flora of Roaring River State Park, Barry County, Missouri. The work which culminated in the thesis was conducted between March 1979 and the fall of 1980. In addition to documenting the collection of 667 taxa, Kathy describes eleven terrestrial communities from which the collections were made. Delineation of these communities is based on an unpublished Terrestrial Natural Community Classification System for Missouri recently developed by Paul Nelson of the Missouri Department of Natural Resources for the Missouri Natural Areas System.

The various communities found at Roaring River State Park include a freshwater spring, chert upland forest, limestone upland forest, bottomland forest, dolomite glade, limestone bluff, gravel wash and artificial or disturbed areas. These various communities from which sampling data was derived represent successional series in the oak-hickory forest and contain a number of endemics, disjuncts, and floristic affinities to other geographic regions.

For example, presence of prairie grasses and some of the glade flora are indicative of western and southwestern areas. *Arundinaria gigantea* and *Hymenopappus scabiosaeus* are indicative of southern and coastal plain influence.

Some of the endemic taxa recorded from Roaring River State Park include *Castanea ozarkensis, Tradescantia ozarkana, Delphinium treleasei,* and *Penstemon arkansanus. Ilex decidua* occurs in the park and is a disjunct in the Ozarks from the Mississippi lowlands.

This work represents one in a series of floristic studies completed in Missouri State Parks. Results from this work will aid in park management, in proper siting of facilities, in location and protection of rare flora, in natural area designation and in providing benchmark floristic data from which future studies are conducted.

BOOK REVIEW

A new handbook by Dorothy and Henderson Leake entitled Wildflowers of the Ozarks has been published by Ozark Society Books (177 pages, $7.50 softbound). Dorothy Leake, who has a Ph. D. in biology and is a former college teacher, has done excellent black and white line drawings of the 167 species included in the book as well as illustrations of plant parts and botanical terms. Dr. Leake was also the illustrator for Ruth Nelson's Handbook of Rocky Mountain Plants and is working on the same author's forthcoming book on Arizona desert flowers.

The Leakes have grouped their plants by families and no key is given, so the only way for the reader to identify a plant is to try to assign it to the proper family on the basis of the rather brief family description given at the beginning of each section. However, the descriptions of each plant are interesting and informative, and the lay person should find much that is rewarding in this charming book.

This reviewer was glad to learn of the Ozark Society Foundation, a nonprofit organization interested in conservation, education, and outdoor recreation, and of their publishing operation, Ozark Society Books (Box 3503, Little Rock, Arkansas 72203).

Joanna Turner

NEW COUNTY RECORDS

John Wylie
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I would like to report on two new county records.

When I first saw the iris at Little Bean Marsh in Platte County, I thought that it was the rather common southern blue flag, *Iris virginica*. The first few clumps were not in bloom. Then I discovered a clump with beautiful yellow blossoms and I thought that I had found a brand new species. Steyermark as usual brought me up short, and I discovered that this lovely yellow *Iris pseudacorus* was known to occur in Crawford and Newton counties. It is native to Europe and has happily escaped to the Missouri wilds. It was just beginning to bloom on May 11 in northern Platte County and was growing around the margin of Cottonwood Slough.

Interestingly enough, Tom Johnson visited Little Bean Marsh a week later on May 20 and found *Iris virginica* in bloom.

I believe that both of these are new county records for Platte County. We did not collect specimens but we have some nice photographs of the yellow iris.

JUNCUS BUFONIUS (TOAD RUSH)

Arthur Christ
3458a Watson Rd.,
St. Louis, Mo., 63109

On a May field trip to southeast Missouri I found a small rush that resembled Juncus tenuis (Path Rush) along the roadside. The area was four miles south of Naylor in Ripley County near where the rare Lindera melissaefolium (Pond Berry) occurs. It was Juncus bufonius (Toad Rush). The species name "bufonius" means "of toads" because of its occurrence in damp places.

Juncus bufonius is an annual with slender fibrous roots. The culm is low and slender, being 0.3 to 3.5 decimeters high. The leaf-blades are about 1 millimeter wide. The terminal flowers and the flowers on the inflorescence branches are borne singly and are separated.

This species has been found in Missouri in only three other counties. It was found previously in sandy and gravelly ground along the Missouri River in Clay and Jackson Counties and on Crowley Ridge in Dunklin County. Either it is very rare in Missouri or else it has been overlooked because it is not showy. A specimen was given to the Missouri Botanical Garden herbarium.

DIAMOND PRAIRIE DAY

September 12, 1981

Early September is one of the most dramatic times of the year to visit a prairie. The native tall grasses are at their annual peak and the landscape is alive with a bloom of late-summer wildflowers.

The Department of Conservation is hosting a day on the prairie at the newly purchased Diamond Prairie, just east of Joplin. Events of the day will include talks on prairie birds, mammals, amphibians, and reptiles. Department naturalists and biologists will lead walks on the prairie interpreting the sights, sounds, and moods of this disappearing landscape.

Visitors will meet 19th century traders and learn about the lives of men who challenged the prairie wilderness to trade for furs. A special program will feature stories about the life of pioneers as they settled the prairie.

*Editor's note: All this AND MoNPS meeting, of which more in a later mailing.

PLEASE SEND US MATERIAL! HERE'S HOW

Since Missouriensis is prepared for publication entirely by volunteers, using borrowed typewriters, the process is obviously both facilitated and expedited when material is submitted in form to be reproduced with little or no change. We ask, therefore, that, whenever possible, articles sent to the Editor be in duplicate and typed according to the following rules:

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Articles should be signed and authors' address given as briefly as possible at the top of the article immediately under the title. The text of the article should begin two spaces below.
A manuscript should be no more than 3 typewritten single-spaced pages, although this rule should not be considered universally binding.
Any drawings or maps for publication should be submitted in black or india ink.
Bibliographies and/or references should be limited to necessary minimum, e.g. author's name; if article, capitalize and enclose in quotes. Title of book or Journal, (latter: vol., no., pg., etc.); date.

Botanical names

The genus is capitalized. The species is lower case. The entire botanical name is underlined.
General reference to genera should be in lower case (e.g. violet), although references to a species by generally recognized common name should be capitalized (e.g. Bird's-foot Violet).

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Enclosed is my contribution to the preservation of Missouri plants,in the amount of____

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